

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A semiconductor device comprising:

an active layer comprising a semiconductor film comprising silicon, ~~said active layer containing a crystallization promoting material for promoting crystallization of said semiconductor film~~; and

a gate electrode comprising ~~a heat-resistant material~~ tantalum adjacent to said active layer with a gate insulating film interposed therebetween,

wherein a concentration of ~~said crystallization promoting material~~ nickel in a source region and a drain region formed in said active layer is higher than a concentration of ~~said crystallization promoting material~~ nickel in other regions in said active layer by two or more orders of magnitude, and

wherein said source region and said drain region comprise a nickel phosphide.

2. (Currently Amended) The semiconductor device according to claim 1, wherein said ~~heat-resistant material is one of tantalum and a material mainly comprising tantalum~~ nickel phosphide is one of NiP, NiP₂ and Ni₂P.

3.-4. (Canceled)

5. (Previously Presented) The semiconductor device according to claim 1, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

6. (Canceled)

7. (Previously Presented) The semiconductor device according to claim 1, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

8.-34. (Canceled)

35. (Currently Amended) A semiconductor device comprising:

an active layer comprising a semiconductor film comprising silicon, ~~said active layer containing a crystallization promoting material for promoting crystallization of said semiconductor film;~~

a gate electrode comprising ~~a heat-resistant material~~ tantalum adjacent to said active layer with a gate insulating film interposed therebetween;

a first interlayer insulating film over said active layer and on said gate electrode; and

a second interlayer insulating film ~~comprising a resinous material~~ over said first interlayer insulating film,

wherein a concentration of ~~said crystallization promoting material~~ nickel in a source region and a drain region formed in said active layer is higher than a concentration of ~~said crystallization promoting material~~ nickel in other regions in said active layer by two or more orders of magnitude, and

wherein said source region and said drain region comprise a nickel phosphide.

36. (Currently Amended) The semiconductor device according to claim 35, wherein said ~~heat-resistant material is one of tantalum and a material mainly comprising tantalum~~ nickel phosphide is one of NiP, NiP₂ and Ni₂P.

37. (Canceled)

38. (Previously Presented) The semiconductor device according to claim 35, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

39. (Previously Presented) The semiconductor device according to claim 35, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

40. (Previously Presented) The semiconductor device according to claim 35, wherein said first interlayer insulating film comprises silicon nitride.

41. (Previously Presented) The semiconductor device according to claim 35, wherein said second interlayer insulating film comprises a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.

42. (Currently Amended) A semiconductor device comprising:

an active layer comprising a semiconductor film comprising silicon, ~~said active layer containing a crystallization promoting material for promoting crystallization of said semiconductor film;~~ and

a gate electrode comprising ~~a heat-resistant material~~ tantalum adjacent to said active layer with a gate insulating film interposed therebetween;

wherein a concentration of ~~said crystallization promoting material~~ nickel in a source region and a drain region formed in said active layer is higher than a concentration of ~~said crystallization promoting material~~ nickel in other regions in said active layer which is less than 5×10^{16} atoms/cm³, and

wherein said source region and said drain region comprise a nickel phosphide.

43. (Currently Amended) The semiconductor device according to claim 42, wherein said ~~heat-resistant material is one of tantalum and a material mainly comprising tantalum~~ nickel phosphide is one of NiP, NiP₂ and Ni₂P.

44. (Canceled)

45. (Previously Presented) The semiconductor device according to claim 42, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

46. (Previously Presented) The semiconductor device according to claim 42, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

47. (Currently amended) A semiconductor device comprising:

an active layer comprising a semiconductor film comprising silicon, ~~said active layer containing a crystallization promoting material for promoting crystallization of said semiconductor film;~~

a gate electrode comprising a heat-resistant material adjacent to said active layer with a gate insulating film interposed therebetween;

a first interlayer insulating film over said active layer and on said gate electrode; and

a second interlayer insulating film ~~comprising a resinous material~~ over said first interlayer insulating film,

wherein a concentration of ~~said crystallization promoting material~~ nickel in a

source region and a drain region formed in said active layer is higher than a concentration of ~~said crystallization promoting material~~ nickel in other regions in said active layer which is less than 5×10^{16} atoms/cm³, and
wherein said source region and said drain region comprise a nickel phosphide.

48. (Currently Amended) The semiconductor device according to claim 47, wherein said ~~heat resistant material is one of tantalum and a material mainly comprising tantalum~~ nickel phosphide is one of NiP, NiP₂ and Ni₂P.

49. (Canceled)

50. (Previously Presented) The semiconductor device according to claim 47, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

51. (Previously Presented) The semiconductor device according to claim 47, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

52. (Previously Presented) The semiconductor device according to claim 47, wherein said first interlayer insulating film comprises silicon nitride.

53. (Previously Presented) The semiconductor device according to claim 47, wherein said second interlayer insulating film comprises a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.

54. (Currently Amended) A semiconductor device comprising:

~~an active layer comprising a semiconductor film comprising silicon, said active layer containing a crystallization promoting material for promoting crystallization of said semiconductor film; and~~

a gate electrode comprising tantalum adjacent to said active layer with a gate insulating film interposed therebetween;

~~wherein a concentration of said crystallization promoting material in a source region and a drain region formed in said active layer is higher than a concentration of said crystallization promoting material in other regions in said active layer by two or more orders of magnitude~~ comprise a nickel phosphide.

55. (Currently Amended) The semiconductor device according to claim 54, ~~wherein said crystallization promoting material is selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, and Au~~ nickel phosphide is one of NiP, NiP₂ and Ni₂P.

56. (Previously Presented) The semiconductor device according to claim 54, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

57. (Previously Presented) The semiconductor device according to claim 54, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

58. (Currently amended) A semiconductor device comprising:

~~an active layer comprising a semiconductor film comprising silicon, said active layer containing a crystallization promoting material for promoting crystallization of said semiconductor film; and~~

a gate electrode comprising tantalum adjacent to said active layer with a gate insulating film interposed therebetween;

a first interlayer insulating film over said active layer and on said gate electrode;
and

a second interlayer insulating film over said first interlayer insulating film,

wherein ~~a concentration of said crystallization promoting material in a source region and a drain region formed in said active layer is higher than a concentration of said crystallization promoting material in other regions in said active layer which is less than 5×10^{16} atoms/cm³~~ comprise a nickel phosphide.

59. (Currently Amended) The semiconductor device according to claim 58, wherein said ~~crystallization promoting material is selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, and Au~~ nickel phosphide is one of NiP, NiP₂ and Ni₂P.

60. (Previously Presented) The semiconductor device according to claim 58, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

61. (Previously Presented) The semiconductor device according to claim 58, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

62. (Previously Presented) The semiconductor device according to claim 1, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

63. (Previously Presented) The semiconductor device according to claim 1, wherein said gate electrode is located below said active layer.

64. (Previously Presented) The semiconductor device according to claim 35, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

65. (Previously Presented) The semiconductor device according to claim 35, wherein said gate electrode is located below said active layer.

66. (Previously Presented) The semiconductor device according to claim 42, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

67. (Previously Presented) The semiconductor device according to claim 42, wherein said gate electrode is located below said active layer.

68. (Previously Presented) The semiconductor device according to claim 47, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

69. (Previously Presented) The semiconductor device according to claim 47, wherein said gate electrode is located below said active layer.

70. (Previously Presented) The semiconductor device according to claim 54, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

71. (Previously Presented) The semiconductor device according to claim 54, wherein said gate electrode is located below said active layer.

72. (Previously Presented) The semiconductor device according to claim 58, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

73. (Previously Presented) The semiconductor device according to claim 58, wherein said gate electrode is located below said active layer.

74. (New) The semiconductor device according to claim 58, wherein said first interlayer insulating film comprises silicon nitride.

75. (New) The semiconductor device according to claim 58, wherein said second interlayer insulating film comprises a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.